## aeromet

SEASONAL PROGRESS REPORT NO. 3 for the period September, October and November 1976

to

ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 Lincoln St., Suite 900
Denver, CO 80203

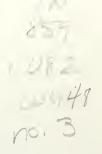
Contract No. 68-01-1946

### aeromet inc.

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by

Aeromet, Inc. P.O. Box FF Norman, OK 73070

#### 1.0 INTRODUCTION

Low level temperature and wind data were collected for the fall season of September, October and November 1976 at Casper, Wyoming; the Colorado C-b Tract 25 miles west of Rio Blanco, Colorado; Craig, Colorado; Escalante and Hanksville, Utah; Rock Springs, Wyoming; and the U-a/U-b Tract 5 miles south of Bonanza, Utah. The collection of data at the U-a/U-b site commenced October 1, 1976 and will continue through 30 September, 1977. The data were collected using a 30 gm helium filled pilot balloon with a temperature sonde attached, a single theodolite and a TSR-2 receiver/recorder twice a day every other day. The observations were made ½ hour after sunrise and at 1400L.

The pilot balloon had an ascent rate of 500 ft/min and it was tracked by a single theodolite for 12 minutes with the azimuth and elevation angles recorded every 30 seconds on a cassette tape recorder. The tape was transcribed to a pilot balloon form after the observation.

The temperature sonde operated at 403 MHz and the signal was received by a ground plane antenna at least 24 ft. AGL which was attached to the Aeromet, Inc. TSR-2 receiver/recorder. The TSR-2 receiver has a built-in Rustrak strip chart recorder and the temperature was recorded within the range from -50°C to +50°C. A baseline temperature calibration was performed with each T-Sonde by the adjustment of the recorded temperature to match the thermometer measured temperature next to the transmitting sonde. Once the calibration check was finished the balloon was released with the sonde attached and the temperature was recorded for at least 20 minutes. At the completion of each observation the data were mailed to Aeromet, Inc.

The Annual Progress Report is divided into seven parts, one corresponding to each of the seven field sites. The temperature and wind data were not edited after the completion of the Monthly Progress Reports.



#### 2.1 Mixing Layer Height

The average mixing layer height was computed for the morning and afternoon based on the morning and 1400L temperature soundings. The balloon release ½ hour after sunrise is near enough to the minimum temperature to assume the correctness of the calculated mixing layer heights. The afternoon balloon release is generally not at the time of maximum heating and the user of the mixing layer height data must be aware that minor changes in the calculated values can be expected. Without equipping the field sites with minimum/maximum thermometers the extrapolation of the afternoon data cannot be justified in establishing a data base for statistical analysis. The approximation of the afternoon maximum temperature would be a "calculated guess" for there are: 1) local effects which are to be determined and would be filtered out with extrapolation, 2) mountain effects which alter the lower 1500m (e.g. downslope effects), and 3) meteorological effects which can alter the expected change in the sounding (e.g. advection, moisture, etc.).

It is felt that to better define the mixing layer height a variety of "heat island" effects should be viewed. The rigourous method would be to define 15 "heat island" effects ranging from 0 to 14°C and let the user decide which would best serve his needs. However, for this analysis 0°, +5° and +10° "heat island" effects are calculated and listed for the morning and afternoon soundings in the table Average Mixing Layer Height.

A summary of the average mixing layer heights calculated with the 0°, +5° and +10° "heat island" effects for each of the six field sites for the fall season of September, October and November are included in the report. The percent of occurrence of the average height within 250m increments above ground level is given in tabular form. The total number of soundings included in the sample populations are listed in the table.

#### 2.2 Stability and Inversion Classification

The temperature and wind data were edited to remove data felt to cause anomalous results in the stability and inversion classification schemes. Only the stations listed prior to the table classifying the inversions were used in the calculations.

The temperature data are processed to produce for each site a seasonal summary of inversion layers and lapse rates within the inversions and from the inversion base to the surface by means of the Holzworth classification scheme for inversions (Holzworth, G. C., 1974: "Climatological Data on Atmospheric Stability in the United States" paper presented at the American Meteorological Society Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974, Santa Barbara, California.)



The temperature and wind data are processed together to produce for each site a monthly average bivariate frequency distribution of wind direction versus wind speed represented in the 500m layer adjacent to the ground. The distribution is presented by the six Pasquill stability classes (A-F) and a summary independent of stability. If the  $\Delta T/100m$  criterion is met but the wind speed criterion is not met, then the wind data are checked against the criterion

STABILITY CLASS	∆T (°C/100m)	WIND SPEED (m s <sup>-1</sup> )
А	<-1.9	≤2
В	-1.91.7	≤5
С	-1.71.5	≤6
D	-1.50.5	ALL SPEEDS
Е	-0.5 - 1.5	≤5
F	>1.5	≤3

for the next stability class, always cascading to the D stability class. Once the wind speed criterion is met the data are classified under the new stability class even though now the lapse rate exceeds the class criterion. For example, if the  $\Delta T/100\text{m}$  value is 1.7 and the wind speed is 7 m s^1, the lapse rate criterion is met for the stability class F, however the wind speed criterion is exceeded. The wind speed is greater than the 5 m s^1 maximum limit for class E but falls within the criterion of class D, which includes all wind speeds. As a result the observational data with a  $\Delta T$  value of 1.7°C/100m and a wind speed value of 7 m s^1 are classified under stability class D, not class F.

The data are also punched on computer cards in a format compatible with the STAR PROGRAM of the National Climatic Center, NOAA, U.S. Department of Commerce. A detailed description of the punched output can be found in the Monthly Progress Reports.



# AVERAGE MIXING LAYER HEIGHT Utah U-a/U-b Tract

Season: September, October, November

MIXING LAYER HEIGHT		PER	CENT OF O	CCURREN	CE	
(Height in meters)		MORNING		AF	TERNOON	
	0.	+5.	+10.	0.	+5.	+10.
surface	80.0			12.9		
1 - 250m	16.7	90.0	41.4	32.2		
251 - 500m		3.3	41.4	32.2	3.3	
501 - 750m			3.4	12.9	23.3	
751 - 1000m		3.3	3.4	6.5	23.3	
1001 - 1250m	3.3				13.3	
1251 - 1500m					16.7	16.1
1501 - 1750m			3.4		6.7	6.5
1751 - 2000m			3.4			22.6
> 2000m		3.3		3.2	6.7	48.4
None defined			3.4		6.7	6.5
TOTAL NUMBER	30	30	29	31	30	31



*		ALIE	ELEV 1585 PETERS	******************** Suunding id 3	3290
DA	TF 10/01/76	Tams:au amit	ASCENT RATE 500	FPM DATA INTERVAL	15 SEC.
	INV BASE METERS AGL	INV TUP METERS AGL	(DEG C)/100M	OFF COMINA	
	0.	724.	0.89	0.0	
*	*****	*****	*************	**************************************	*********** ````
DA				FPM DATA INTERVAL	
	INV BASE	INV TOP	INV DI/DZ	DIZDZ BELOW INV	1999
	,			OT/DZ BELOW INV (DEG C)/100M	
	0.	191.	0.31	0.0	
<b>*</b>	**************************************	************** AUB [	************** ELEV 1585 METERS	****************	********
DA	TE 10/03/76	TIME 07:12MST	ASCENT RATE 500	FPM DATA INTERVAL	15 SEC.
	INV BASE METERS AGL	INV TOP	INV DI/DZ (DEG C)/100M	DT/DZ BELDH INV (DEG C)/100M	
-	0.	191.	1.29	0.0	
_ *	*******	************	****************	**************************************	********** {{{\dangertarrow}}
DA		•		FPM DATA INTERVAL	
	TNV BAGE	INV TOP	THV DT/D7	DT/DZ RELOW INV	
				DT/DZ BELOW INV (DEG C)/100M	an To To Tomasha a men To To Tomas Anne
	381.	495.	0.24	-0,66	
*	**************************************	***** <del>*******</del> AUB	**************************************	SOUNDING ID	********** 3335
DA	TE 10/05/76	TIME 06:22MST	ASCENT RATE 500	FPM DATA INTERVAL	15 SEC.
	INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELUW INV (DEG C)/100M	
	38.	2.67	2.24	-0,76	
*	********	************************************	**************************************	**************************************	********* ~~~
DA				FPM DATA INTERVAL	
	INV BASE	INV TOP	INV DT/DZ (DEG/C)/100M	DT/DZ BELOW INV	
	312.	350.	0.24	-1.04	
		·		****	
	UTAH U	AUB	ELEV 1585 METERS	SOUNDING ID	3331
DA	TE 10/07/76	TIME 07:30MST	ASCENT RATE 500	FPM DATA INTERVAL	15 SEC.
	INV HASE METERS AGL	INV TOP METERS AGL	1NV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
	0.	191	0.76	0 • 0	



	**************************************	HALIH		SOUNDING ID	
DAT	E 10/07/76	T3 * 22 * ST	ASCENT RATE 500	FPM DATA INTERVAL	15 SFC.
	INV RASE	INV TUP METERS AGL	INV DI/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
	279,	323.	0.0	~1,09	••
**	*****	*****	******	*****	***
DATI				SOUNDING ID  FPM DATA INTERVAL	
-			The contract of the contract o		
	METERS AGL	METERS AGL	(DEG D)/100M		
	0.	267.	2.67	0.0	and the second s
**:	**************************************	**************************************	**************************************	SOUNDING ID	**********
DATE	E 10/09/76	TIME 13:55MST	ASCENT RATE 500	FPM DATA INTERVAL	15 SEC.
	INV BASE	INV TOP	INV DT/DZ	DT/DZ BELOW INV	
	METERS AGE	METERS AGE	(DĒG C)/100M		***
				****	*****
	UTAH U	IAUH	FLEV 1585 METERS	SOUNDING ID	3342
DATE	10/11/76	TIME 06:25MST	ASCENT RATE 500	FPM DATA INTERVAL	15 SEC.
	INV BASE METERS AGL	INV. TOP METERS AGL	· INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
	0.	419.	1,69	0.0	\ \
***	****	*****	*****	******	****
DATE	UTAH U		ASCENT RATE 500	SOUNDING ID  FPM DATA INTERVAL	•
	METERS AGL	METERS AGL	(DEG C)/100M	(DEG C)/100M	
	38.	76,	0.0	-1,36	
***	**************************************	**************	**************************************	**************************************	*** <u>*</u> ******
DATE	10/13/76	TIME 06:35MST	ASCENT RATE 500	FPM DATA INTERVAL	15 SEC.
	INV BASE	INV TUP	INV DT/DZ	DI/DZ BELOW INV	
	METERS AGE	METERS AGE 838.	1.02	0.0	
44.		,		•	
	UTAH U	ANR	ELEV 1585 METERS	**************************************	3340
DATE				FPM DATA INTERVAL	15 SEC.
	INV BASE METERS AGL	THV TOP METERS AGL	INV DI/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
	114.	267.	0,35	-1,15	



	******		*********	*****
			SUUNDING ID FPM DATA INTERVA	•
INV BASE	INV TOP	INV DT/DZ (DEG C)/100M	DI/DZ BELOW INV	
0,	648.		0,0	
	**************************************	**************************************	*************** SDUNDING ID	*********** *****
		**	FPM DATA INTERVA	
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	48
937.	1127.			
**************************************	**************************************	**************************************	*******************************	**************************************
DATE 10/17/76	TIME 06:33MST	ASCENT RATE 500	FPM DATA INTERVA	L 15 SEC.
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
38.	267.	2,78	-0,76	emercian apparent of many spacetimes controlled
			SOUNDING ID	
DATE 10/17/76	TIME 13:07MST	ASCENT RATE 500	FPM DATA INTERVA	L 15 SEC.
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	OT/DZ BELOW INV (DEG C)/100M	
169,		0,21	-1.29	
<u>**********</u> UTA <u>H</u> U		ELEV 1585 METERS	SOUNDING ID	3347
DATE 10/19/76	TIME 06:38MST	ASCENT RATE 500	FPM DATA INTERVA	L 15 SEC.
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ	DT/DZ BELOW INV (DEG C)/100M	
0,	720.	1.30	0.0	The state of the s
***********************************	**************************************	**************************************	SUUNDING ID	**********
DATE 10/19/76	TIME 13:01MST	ASCENT RATE 500	FPM DATA INTERVA	L 15 SEC.
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	OT/DZ BELOW INV (DEG C)/100M	
204,	357,	0.12	1.04	and the second second
######################################	***************	**************************************	SOUNDING ID	********** 3328
DATE 10/21/76	TIME USISOMST	ASCENT RATE 500	FPM DATA INTERVA	L 15 SEC.
- ,	14.5 40120 01			
INV BASE METERS AGL		INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/1004	



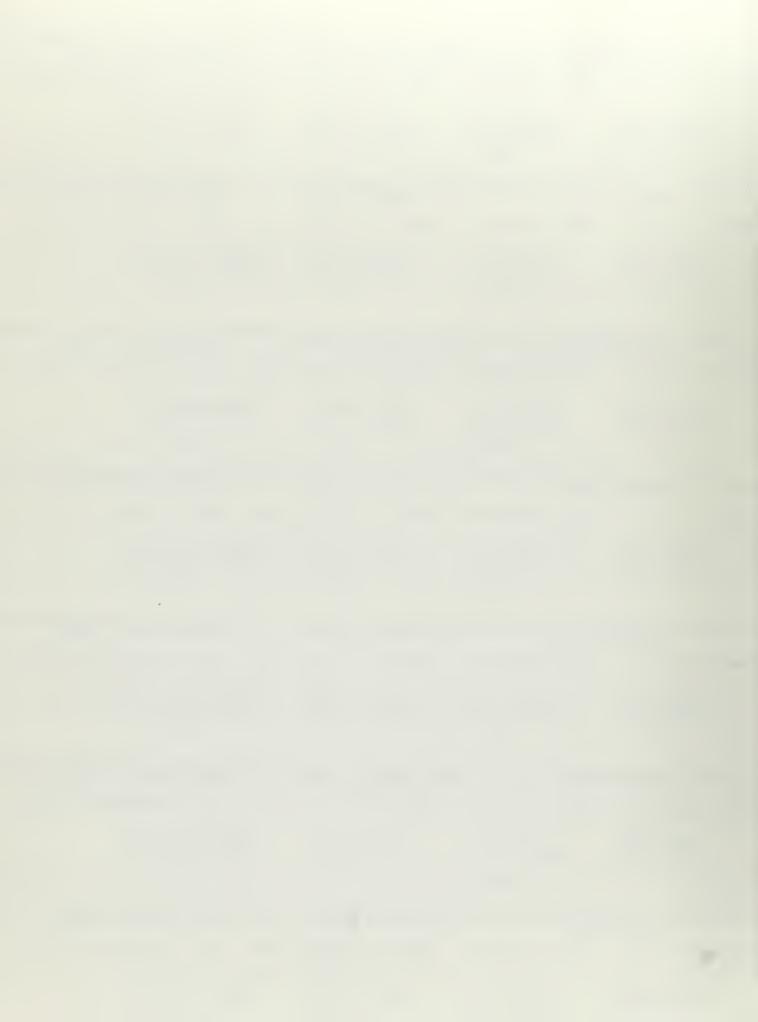
************	****	**************** ELEV 1585 METERS	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	**************************************
		ASCENT RATE 500		
INV BASE METERS AGL	INV TUP METERS AGL	INV DI/DZ (DEG C)/100M	DT/DZ BELOW IN (DEG C)/100M	JV 4
	792.		-1,22	
************		**************************************	************* Sounding	******************************
DATE 10/23/76 TI	IME 06:38MST	ASCENT RATE 500	FPM DATA INTE	ERVAL 15 SEC.
INV BASE METERS AGL	INV TOP METERS AGL	INV DI/DZ	DT/DZ BELOW IN (DEG C)/100M	NV 1
0,	419.	2.34	0.0	
**********	**************************************	**************** ELEV 1585 METERS	SOUNDING	1D 3324
DATE 10/23/76 TI	IME 12:57MST	ASCENT RATE 500	FPM DATA INTE	ERVAL 15 SEC.
INV BASE METERS AGL	INV TUP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DX BELOW IN	J V
397,	454.	1,13	-1.04	and the second of the second s
TAH UAUE	******	ELEV 1585 METERS	SUUNDING	10 3323
DATE 10/25/76 TI	ME 06:38MST	ASCENT RATE 500	FPM DATA INTE	RVAL 15 SEC.
		,	application of the contract of	
INV BASE METERS AGL	INV TOP METERS AGL	INV DI/DZ (DEG C)/100M ,	DT/DZ BELDW IN	i V
INV BASE METERS AGL	•	INV DT/DZ (DEG C)/100M ,	DT/DZ BELDW IN (DEG C)/100M	i V
0. ************************************	381. **********	1.98 ************************************	SOUNDING 0,0	**************************************
0. ************************************	381. 3************************************	1.98  *********** ELEV 1585 METERS  ASCENT RATE 500	0.0 ***********************************	10 3327 ERVAL 15 SEC.
O.  ************  UTAH UAUE  DATE 10/25/76 TI  INV BASE METERS AGL	381. 3************************************	1.98  ************** ELEV 1585 METERS  ASCENT RATE 500  INV DI/DZ (DEG C)/100M	O.0  SOUNDING  FPM DATA INTE  DT/DZ BELOW IN  (DEG C)/100M	TRVAL 15 SEC.
O.  ************  UTAH UAUE  DATE 10/25/76 TI  INV BASE  METERS AGL  76.	381.  ***********  IME 13:28MST  METERS AGL  143.	1.98  TAXAXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	O, O  *********  SOUNDING  FPM DATA INTE  DT/DZ BELOW IN  (DEG C)/100N	TAXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0.  ***************  UTAH UAUE  DATE 10/25/76 TI  INV BASE METERS AGL  76.  *********************************	381.  ***************  IME 13:28MST  INV TUP  METERS AGL  143.	1.98  ******************  ***************	O.O  SOUNDING  FPM DATA INTE  DT/DZ BELOW IN  (DEG C)/100M  -2.41	TAXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0.  ***************  UTAH UAUE  DATE 10/25/76 TI  INV BASE METERS AGL  76.  *********************************	381.  ************  IME 13:28MST  METERS AGL  143.  ************	1.98  ******************  ***************	O, O  SOUNDING  FPM DATA INTE  DT/DZ BELOW IN  (DEG C)/100M  -2.41  ***********************************	TAXAXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
O.  **************  UTAH UAUE  DATE 10/25/76 TI  INV BASE  METERS AGL  76.  ******************  UTAH UAUE  DATE 10/27/76 TI  INV BASE  METERS AGL	381.  ************  IME 13:28MST  INV TUP  METERS AGL  143.  ***********  IME 06:47MST  INV TUP  METERS AGL	1.98  ELEV 1585 METERS  ASCENT RATE 500  INV DT/DZ (DEG C)/100M  0.0  ELEV 1585 METERS  ASCENT RATE 500  INV DT/DZ (DEG C)/100M	O.O  ***************  SOUNDING  FPM DATA INTE  DT/DZ BELOW IN  (DEG C)/100M  -2.41  ***********************************	TAXAXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
O.  **************  UTAH UAUE  DATE 10/25/76 TI  INV BASE METERS AGL  76.  ****************  UTAH UAUE  DATE 10/27/76 TI  INV BASE METERS AGL  O.	381.  ************  IME 13:28MST  INV TUP  METERS AGL  143.  **********  IME 06:47MST  INV TUP  METERS AGL  381.	1.98  ***********************************	O.O  **************  SOUNDING  FPM DATA INTE  DT/DZ BELOW IN  (DEG C)/100M  -2.41  ******************  SOUNDING  FPM DATA INTE  DT/DZ BELOW IN  (DEG C)/100M	TAXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0.  *****************  UTAH UAUE  DATE 10/25/76 TI  INV BASE METERS AGL  76.  *******************  UTAH UAUE  DATE 10/27/76 TI  INV BASE METERS AGL  0.  *********************************	381.  *************  IME 13:28MST  METERS AGL  143.  ***********  ME 06:47MST  METERS AGL  381.	1.98  ***********************************	O, O  ***************  SOUNDING  FPM DATA INTE  DT/DZ BELOW IN  (DEG C)/100M  -2.41  ***********************************	TAXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
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**************************************	FLEV 1585 METERS SUUNDING ID 3320
DATE 10/29/76 TIME 06:48	MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
INV BASE INV T	OP INV DT/DZ DT/DZ BELOW INV AGL (DEG C)/100M (DEG C)/100M
0. 114	3. 0.77
UTAH UAUB	**************************************
	MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
INV BASE INV T METERS AGL METERS	INV DT/DZ DT/DZ BELUW INV AGL (DEG C)/100M (DEG C)/100M
7	
***************	**************************************
	MST - ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
INV BASE INV TO	OP INV DT/DZ DT/DZ BELOW INV
	8. 1.36 0.0
	**************************************
UTAH UAUB  DATE 10/31/76 TIME 13:55	MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
INV BASE INV TO	OP INV DT/DZ DT/DZ BELOW INV AGL (DEG C)/100M (DEG C)/100M
MÉTERS AGL METERS /	
*****	***********
DATE 11/02/76 TIME 06:52	ELEV 1585 METERS SOUNDING ID 3313  1ST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
METERS AGL METERS	AGL (DEG C)/100M (DEG C)/100M
0. 686	1.58
UTAH UAUB	ELEV 1585 METERS SOUNDING ID 3319
DATE 11/02/76 TIME 13:51	4ST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
INV BASE . INV TO	AGL (DEG C)/100M (DEG C)/100M
304. 838	0.13
_*************************************	**************************************
DATE 11/04/76 TIME 07:00	AST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
INV BASE INV TO METERS AGL METERS	OP INV DIVOZ DIVOZ BELUW INV AGL (DEG C)/100M (DEG C)/100M
0. 838	



		*******	******	
	JAUB	ELEV 1585 METERS	SUUNDING ID  FPM DATA INTERVAL	
		, sayer with a second of the		. 15 000
INV BASE METERS AGL	METERS AGL		(DEC C)\100W	
114.	152.	0.71	=1,19	
_ ************************************	**************************************	************** ELEV 1585 METERS	**************	3312
DATE 11/06/76	TIME 07:12MST	ASCENT RATE 500	FPM DATA INTERVAL	. 15 SEC.
INV BASE METERS AGL	INV TOP METERS AGL	(DEG C)/100M	DIVDZ BELOW INV	
38,	1143.		-1,29	
******	**************************************	*************** FLEV 1585 METERS	**************************************	********** 3306
	•	•	FPM DATA INTERVAL	
INV BASE	INV TOP	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV	
203,	889.			
******	*****	<u>*****</u>	*****	******
	•	-	SOUNDING 1D FPM DATA INTERVAL	
INV BASE	INV TOP	.INV DT/DZ	DT/DZ BELOW INV	
Application gives the financial control of the first control of the firs		.INV DT/DZ (DEG C)/100M	(DEG C)/100M	
0.	. · · · · · · · · · · · · · · · · · · ·	2 g 3 M	U . V	
.*************************************		*************** ELEV 1585 METERS		3309
DATE 11/08/76	TIME 13:57MST	ASCENT RATE 500	FPM DATA INTERVAL	15 SEC.
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DINDS BELOW INV	
76,	133.	0.0	-2.02	
**************************************		**************************************	**************************************	********** 3311
DATE 11/10/76	TIME 07:05MST	ASCENT RATE 500	FPM DATA INTERVAL	.15 SEC.
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
0.	800.	1.20	0.0	
************* UTAH U	****	**************************************	**************************************	******
			FPM DATA INTERVAL	
INV BASE METERS AGL	INV TUP	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV	
271.	582.	0.18	-1.01	



######################################	*************	ABTERS	-\$00001NG 10 3471
DATE 11/12/76 TIME	13:56MST ASCEN	T RATE 500 FPM	DATA INTERVAL 15 SEC.
INV BASE METERS AGL ME	INV TUP 1 TERS AGL (DE	NV DT/DZ DT/D G C)/100M (D	7 BELOW INV EG C)/100M
38.	76.	0.0	-2,97
**************	************** ELEV 15	*******************************	**************************************
			DATA INTERVAL 15 SEC.
INV BASE METERS AGL ME	INV TOP I TERS AGL (DE	NV DT/DZ DT/D G C)/100M (D	Z BELOW INV EG C)/100M
	381.		0.0
*************	*********** ELEV 15	**************************************	**************************************
	13156MST ASCEN	T RATE 500 FPM	DATA INTERVAL 15 SEC.
INV BASE METERS AGL ME	INV TOP I TERS AGL (DE	NV DT/DZ DT/D G C)/100M (D	Z BELOW INV EG C)/100M
76.	152.	0.13	-1.84
UTAH UAUB	************** ELEV 15	**************************************	**************************************
DATE 11/16/76 TIME	7:05MST ASCEN	T RATE 500 FPM	DATA INTERVAL 15 SEC.
INV BASE	INV TOP 1 TERS AGL (DE	NV DT/DZ DT/D	Z BELOW INV
MÉTÉRS AGL ME	IERS AGL (DE	G C)/100M (D	EG CJ/100H
METERS AGL ME	267.	1.08 (D	0.0
0 <b>,</b>	267.	1,08	0 <b>,</b> 0
0. 	267.	1.08 *******************************	0,0
0. 	267. ************************************	1.08 ************************************	0.0  ******************  SOUNDING ID 3472  DATA INTERVAL 15 SEC.  Z BELOW INV
O.  ****************  UTAH UAUB  DATE 11/16/76 TIME :  INV BASE METERS AGL ME	267. ************************************	1.08 ************************************	0.0  ******************  SOUNDING ID 3472  DATA INTERVAL 15 SEC.  Z BELOW INV
O.  *****************  UTAH UAUB  DATE 11/16/76 TIME !  INV BASE METERS AGL M	267.  *******************  ELEV 15  14:02MST ASCEN  INV TOP TERS AGL (DE	1.08  ****************  **************  ****	O.O  **********************************
O.  ****************  UTAH UAUB  DATE 11/16/76 TIME 1  INV BASE METERS AGL METERS AGL METERS AGL	267.  ****************  ELEV 15  14:02MST ASCEN  INV TOP TERS AGL (DE  114.	1.08  ***************  **********  T RATE 500 FPM  NV DT/DZ DT/D G C)/100M (D  0.80  ********************************	O.O  ************************  DATA INTERVAL 15 SEC.  Z BELOW INV EG C)/100M  O.O  ********************************
O.  ****************  UTAH UAUB  DATE 11/16/76 TIME !  INV BASE METERS AGL ME!  O.  *********************************	267.  ***************  ELEV 15  14:02MST ASCEN  INV TOP TERS AGL (DE  114.  *******************  ELEV 15  07:07MST ASCEN	1.08  **************  *********  T RATE 500 FPM  NV DT/DZ DT/D G C)/100M (D  0.80  **************  T RATE 500 FPM	O.O  **************************  DATA INTERVAL 15 SEC.  BELOW INV EG C)/100M  O.O  ********************************
O.  *****************  DATE 11/16/76 TIME  INV BASE METERS AGL ME  O.  ******************  DATE 11/18/76 TIME (  INV BASE METERS AGL ME  INV BASE METERS AGL ME	267.  ***************  ELEV 15  14:02MST ASCEN  INV TOP TERS AGL (DE  114.  ******************  ELEV 15  7:07MST ASCEN  INV TOP TERS AGL (DE	1.08  **************  *********  T RATE 500 FPM  NV DT/DZ DT/D G C)/100M (D  0.80  **************  T RATE 500 FPM	O.O  **************************  DATA INTERVAL 15 SEC.  BELOW INV EG C)/100M  O.O  ********************************
O.  ******************  UTAH UAUB  DATE 11/16/76 TIME  INV BASE METERS AGL METERS AGL METERS AGL  O.  *********************************	267.  ***************  ELEV 15  14:02MST ASCEN  INV TOP TERS AGL (DE  114.  ******************  ELEV 15  7:07MST ASCEN  INV TOP TERS AGL (DE  1181.	1.08  *****************  **************  ****	*********************  O.0  ************
O.  *****************  UTAH UAUB  DATE 11/16/76 TIME  INV BASE METERS AGL METO  O.  *********************  UTAH UAUB  DATE 11/18/76 TIME (  INV BASE METERS AGL METO  O.	267.  *****************  ELEV 15  14:02MST ASCEN  INV TOP TERS AGL (DE  114.  ******************  INV TOP TERS AGL (DE  1181.	1.08  *****************  *************  T RATE 500 FPM  NV DT/DZ DT/D 0.80  *****************  T RATE 500 FPM  NV DT/DZ DT/D G C)/100M CD  1.03  ***********************************	0.0  **************************  DATA INTERVAL 15 SEC.  2 BELOW INV EG C)/100M  0.0  ******************************
O.  ******************  DATE 11/16/76 TIME  INV BASE METERS AGL METERS AGL METERS AGL TIME  O.  *********************************	267.  ****************  ELEV 15  14:02MST ASCEN  INV TOP TERS AGL (DE  114.  ****************  ELEV 15  7:07MST ASCEN  INV TOP TERS AGL (DE  1181.  *****************  ELEV 15	1.08  *****************  T RATE 500 FPM  NV DT/DZ DT/D  0.80  ***************  T RATE 500 FPM  NV DT/DZ DT/D  G C)/100M DT/DZ  G C)/100M (D)  1.03  ***********************************	**************************************



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	HATU	UAUH	**************************************	**************************************	5466
DAT	E 11/20/76	TIME 07:09MST	ASCENT PATE 500	PPM DATA INTERVA	L 15 SEC.
	INV HASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100m	DT/DZ BELO* INV TOEG C)/100M	
	0	343.	3.06	0.0	
* *	· ·*********	*****	************	****	*******
0.4.5	UTAH (		ELEV 1585 METERS		
DAI	£ 11/20//6	11mE 14:00mS1	ASLENI RATE SUL	) FPM DATA INTERVA	IL 15 SEC.
	INV BASE METERS AGL	INV TOP METERS AGL	INV DI/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
	0.	76.	2.74	0.0	
* *	****	****	*****	******	******
	UTAH I	IAUB	ELEV 1585 METERS	SOUNDING ID	3461
DAT	E 11/22/76	TIME 07:10MST	ASCENT RATE 500	PPM DATA INTERVA	L 15 SEC.
	INV BASE	INV TOP	1NV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG Q)/100M	
	0.	1181.	0.90	0.0	
	***	. * * * * * * * * * * * * * * * *		******	****
	UTAH	JAUB	ELEV 1585 METERS	SUUNDING ID	
DAT	E 11/22/76	TIME 14:40MST	ASCENT RATE 500	FPM DATA INTERVA	L 15 SEC.
	INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
g professional process filled	182.	951.	0.19	-1,49	The second secon
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	******	******	* * * * * * * * * * * * * * * * * * *	- ****************	****************
DAT	UTAH	JAUB	ELEV 1585 METERS	SOUNDING ID  FPM DATA INTERVA	3457
DAT	UTAH L E 11/24/76	TIME 07:15MST	ASCENT RATE 500	SOUNDING ID  FPM DATA INTERVA	3457
DAT	UTAH L E 11/24/76	TIME 07:15MST	ASCENT RATE 500	SOUNDING ID	3457
	UTAH LE 11/24/76  INV BASE METERS AGL	JAUB  TIME 07:15MST  INV TUP  METERS AGL  762.	ASCENT RATE 500  INV DT/DZ (DEG C)/100M	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV  (DEG C)/100M  0.0	3457 L 15 SEC.
**	UTAH UE 11/24/76  INV BASE METERS AGL  0.	JAUB TIME 07:15MST  INV TUP METERS AGL  762.	ASCENT RATE 500  INV DT/DZ (DEG C)/100M  1.72	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV (DEG C)/100M  0.0	3457 L 15 SEC.
**	UTAH UE 11/24/76  INV BASE METERS AGL  0.  *********************************	JAUB  TIME 07:15MST  INV TOP  METERS AGL  762.  TANE 13:51MST	ASCENT RATE 500  INV DT/DZ (DEG C)/100M  1.72  **ELEV 1585 METERS**  ASCENT RATE 500	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV  (DEG C)/100M  0.0  ******************************	3457 L 15 SEC.
**	UTAH UE 11/24/76  INV BASE METERS AGL  0.  *********************************	JAUB  TIME 07:15MST  INV TOP  METERS AGL  762.  TANE 13:51MST	ASCENT RATE 500  INV DT/DZ (DEG C)/100M  1.72  **ELEV 1585 METERS**  ASCENT RATE 500	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV (DEG C)/100M  0.0	3457 L 15 SEC.
**	UTAH UE 11/24/76  INV BASE METERS AGL  0.  *********************************	JAUB  TIME 07:15MST  INV TOP  METERS AGL  762.  TANE 13:51MST	ASCENT RATE 500  INV DT/DZ (DEG C)/100M  1.72  **ELEV 1585 METERS**  ASCENT RATE 500	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV  (DEG C)/100M  0.0  ******************************	3457 L 15 SEC.
** DAT	UTAH UE 11/24/76  INV BASE METERS AGL  0.  *********************************	TIME 07:15MST  INV TUP  METERS AGL  762.  TIME 13:51MST  INV TUP  METERS AGL  564.	ASCENT RATE 500  INV DT/DZ  (DEG C)/100M  1.72  **ELEV 1585 METERS  ASCENT RATE 500  INV DT/DZ  (DEG C)/100M  0.30	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV  (DEG C)/100M  0.0  ******************************	3457 L 15 SEC.
** DAT	UTAH UE 11/24/76  INV BASE METERS AGL  0.  *********************************	INV TOP METERS AGL 762.  TIME 13:51MST  INV TOP METERS AGL 762.	ASCENT RATE 500  INV DT/DZ (DEG C)/100M  1.72  **ELEV 1585 METERS*  ASCENT RATE 500  (DEG C)/100M  0.30	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV  (DEG C)/100M  0.0  ****************************  SOUNDING ID  DT/DZ BELOW INV  (DEG C)/100M  -2.42	3457 L 15 SEC. ************************************
** DAT	UTAH UE 11/24/76  INV BASE METERS AGL  0.  *********************************	TIME 07:12MST  INV TUP  METERS AGL  762.  TIME 13:51MST  INV TUP  METERS AGL  564.  TIME 07:12MST	ASCENT RATE 500  INV DT/DZ  (DEG C)/100M  1.72  ***********************************	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV  (DEG C)/100M  0.0  ******************************	3457 L 15 SEC. ************************************
** DAT	UTAH UE 11/24/76  INV BASE METERS AGL  0.  *********************************	TIME 07:12MST  INV TUP  METERS AGL  762.  TIME 13:51MST  INV TUP  METERS AGL  564.  TIME 07:12MST	ASCENT RATE 500  INV DT/DZ  (DEG C)/100M  1.72  ***********************************	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV  (DEG C)/100M  0.0  ****************************  SOUNDING ID  DT/DZ BELOW INV  (DEG C)/100M  -2.42	3457 L 15 SEC. ************************************
** DAT	UTAH UE 11/24/76  INV BASE METERS AGL  0.  *********************************	TIME 07:12MST  INV TUP  METERS AGL  762.  TIME 13:51MST  INV TUP  METERS AGL  564.  TIME 07:12MST	ASCENT RATE 500  INV DT/DZ  (DEG C)/100M  1.72  ***********************************	SOUNDING ID  FPM DATA INTERVA  DT/DZ BELOW INV  (DEG C)/100M  0.0  ******************************	3457 L 15 SEC. ************************************



UTAH U	ALIA	ELEV 1585 METERS	SUUNDING ID 3	462
DATE 11/26/76	TIME 14:05MST	ASCENT RATE 500	FPM DATA INTERVAL	15 SEC.
INV BASE METERS AGL	INV TOP	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
.0.	114,	0.67	0.0	<del></del> \
**************************************	************	*************** ELEV 1585 METERS	**************** SOUNDING ID 3	******** 460
			FPM DATA INTERVAL	
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	
38,	495.	1,36	-3,18	
-*************************************	_ *************** ΔUB	*************** ELEV 1585 METERS	***************** SOUNDING ID 3	******** 451
•			FPM DATA INTERVAL	
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M	•
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**************************************	************	*************** ELEV 1585 METERS	**************************************	******* 453
DATE 11/30/76	TIME 07:19MST	ASCENT RATE 500	PPM DATA INTERVAL	15 SEC.
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELDW INV (DEG C)/100M	
0.	1257.	0.76	0,0	
***********	**************************************	**************************************	**************************************	******
			FPM DATA INTERVAL	
INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DINDZ BELOW INV	

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Form 1279-3 (June 1984)

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